

FIG. 2

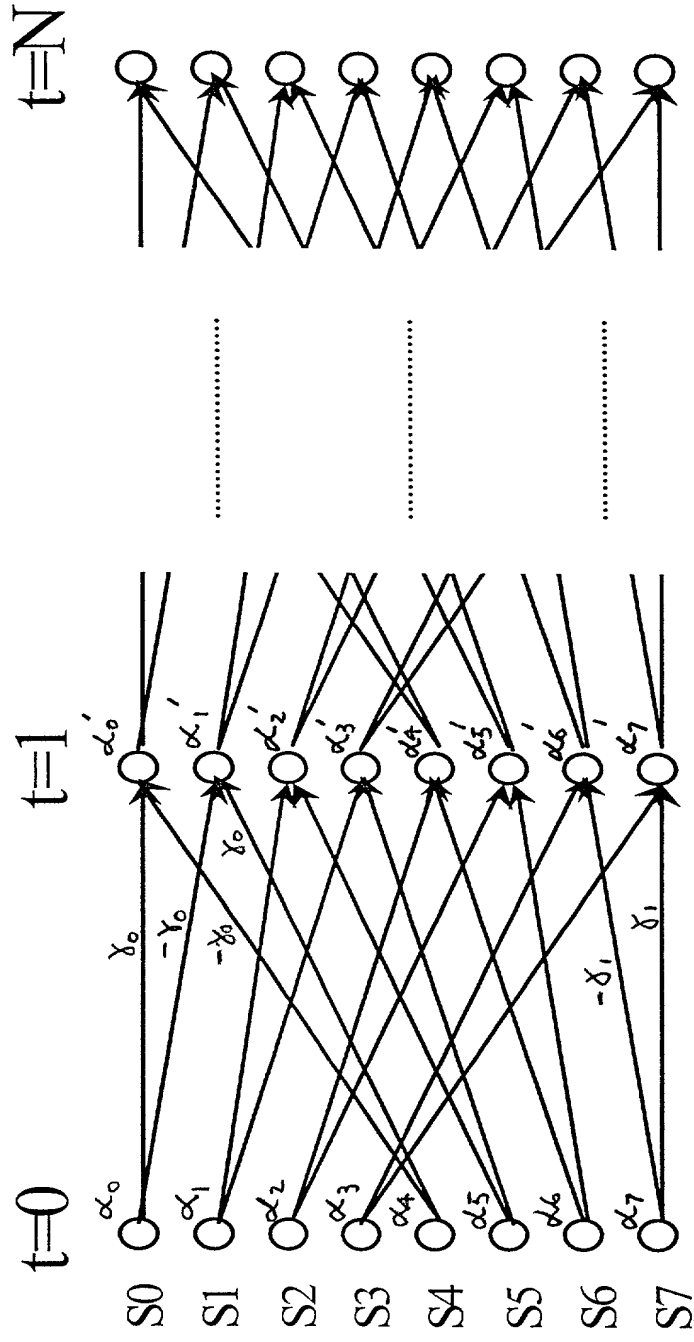


FIG. 3

$$\begin{aligned} \text{Ln} [\alpha_k(s)] = \text{MAX} \{ & \text{Ln}[\alpha_{k-1}(s')] + \text{Ln}[\gamma_k(s',s)] , \\ & \text{Ln}[\alpha_{k-1}(s'')] - \text{Ln}[\gamma_k(s',s)] \} \\ & + \text{Ln}[1 + e^{-\text{abs}(\text{Ln}[\alpha_{k-1}(s')] - \text{Ln}[\alpha_{k-1}(s'')])}] \end{aligned}$$

FIG. 4

$$\begin{aligned} \text{Ln} [\beta_{k-1}(s)] = \text{MAX} \{ & \text{Ln}[\beta_k(s')] + \text{Ln}[\gamma_k(s',s)] , \\ & \text{Ln}[\beta_k(s'')] - \text{Ln}[\gamma_k(s',s)] \} \\ & + \text{Ln}[1 + e^{-\text{abs}(\text{Ln}[\beta_k(s')] - \text{Ln}[\beta_k(s'')])}] \end{aligned}$$

FIG.5

$$\begin{aligned}
 \text{LLR}(k) = & \text{Max}_{\mathbf{S}^+} \{ \ln[\alpha(\mathbf{s}_{k-1})] + \ln[\gamma(\mathbf{s}', \mathbf{s})] + \ln[\beta(\mathbf{s}_k)] \} \\
 & - \text{Max}_{\mathbf{S}^-} \{ \ln[\alpha(\mathbf{s}_{k-1})] + \ln[\gamma(\mathbf{s}', \mathbf{s})] + \ln[\beta(\mathbf{s}_k)] \} \\
 & + \text{Jacobian Correction Factor}
 \end{aligned}$$

FIG. 6

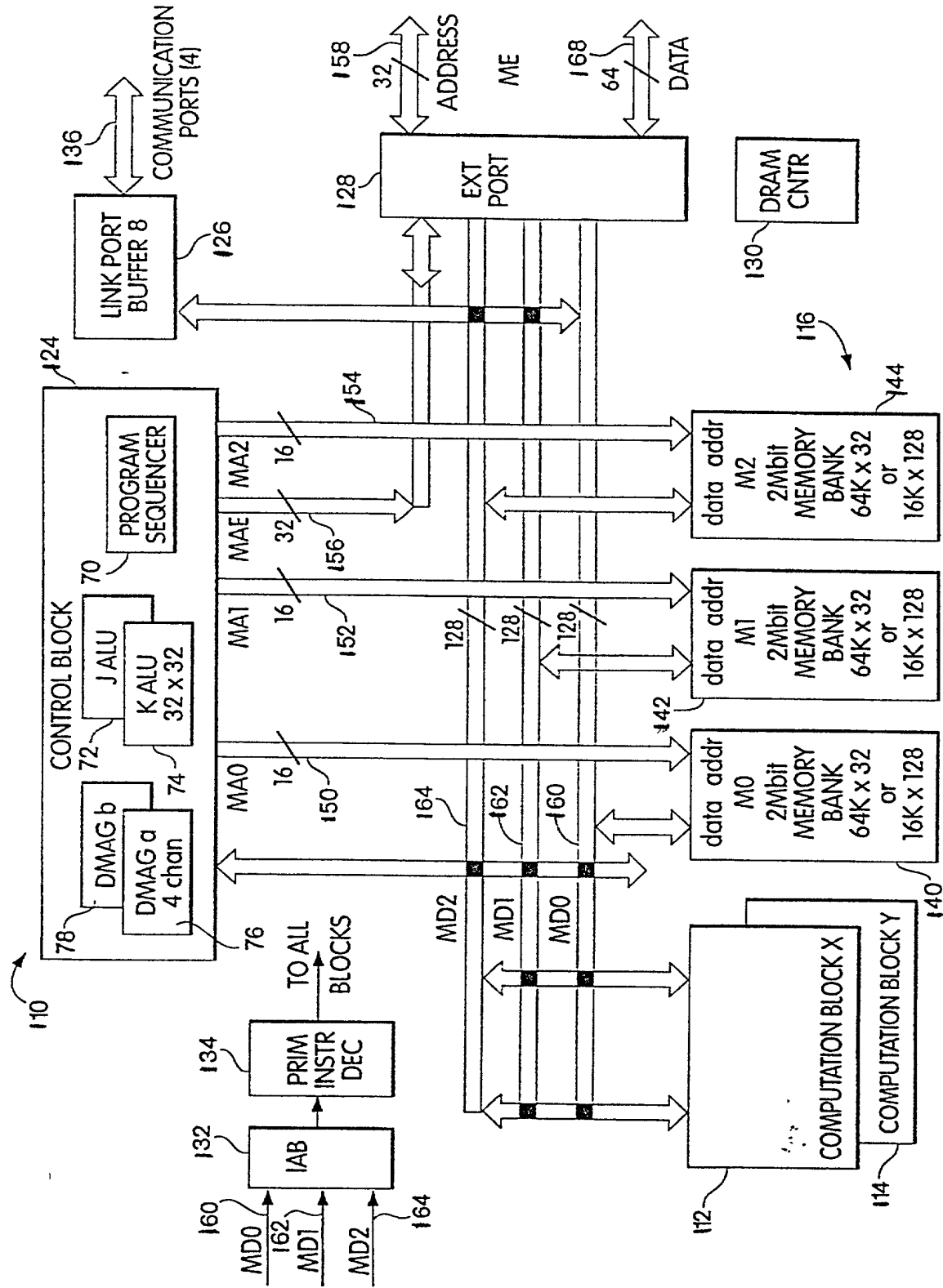


FIG. 7

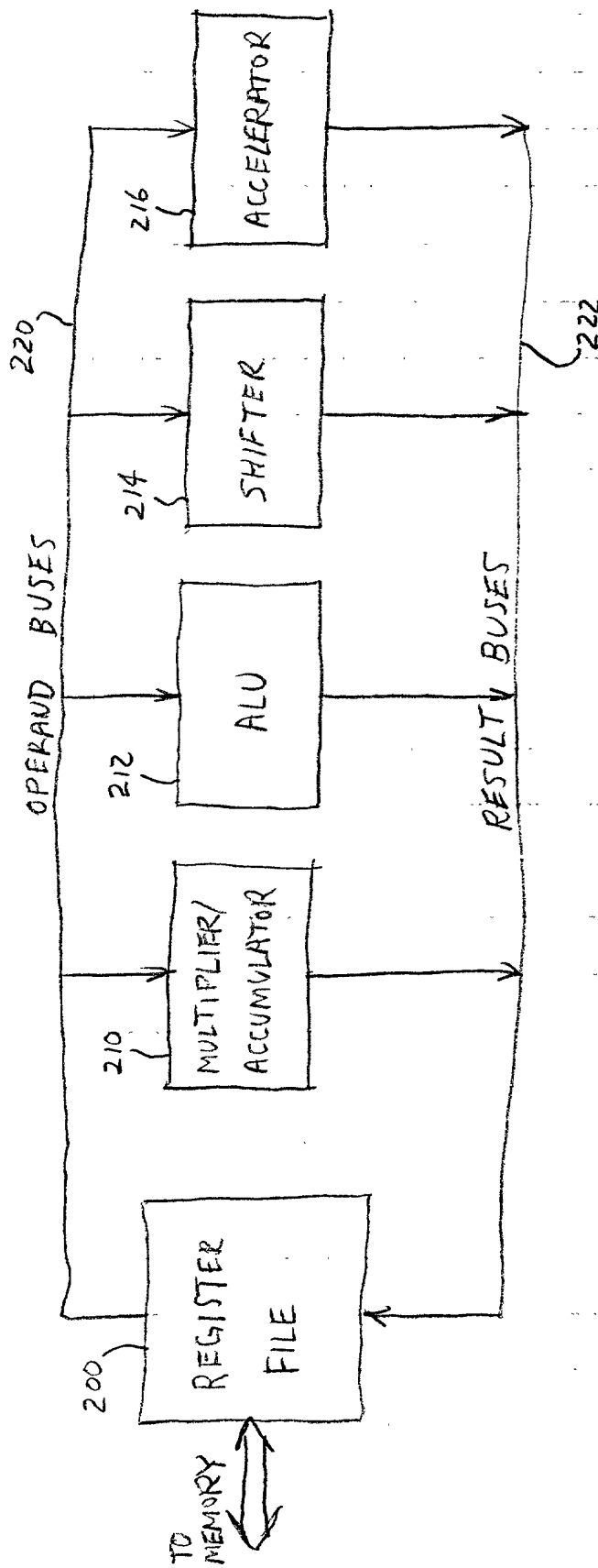
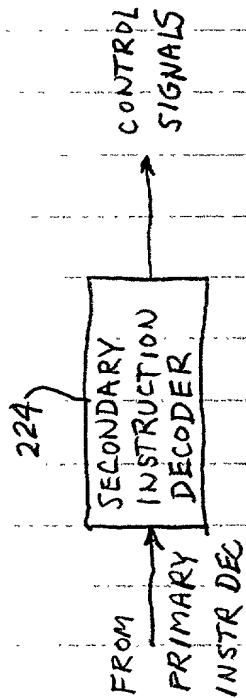


FIG. 8



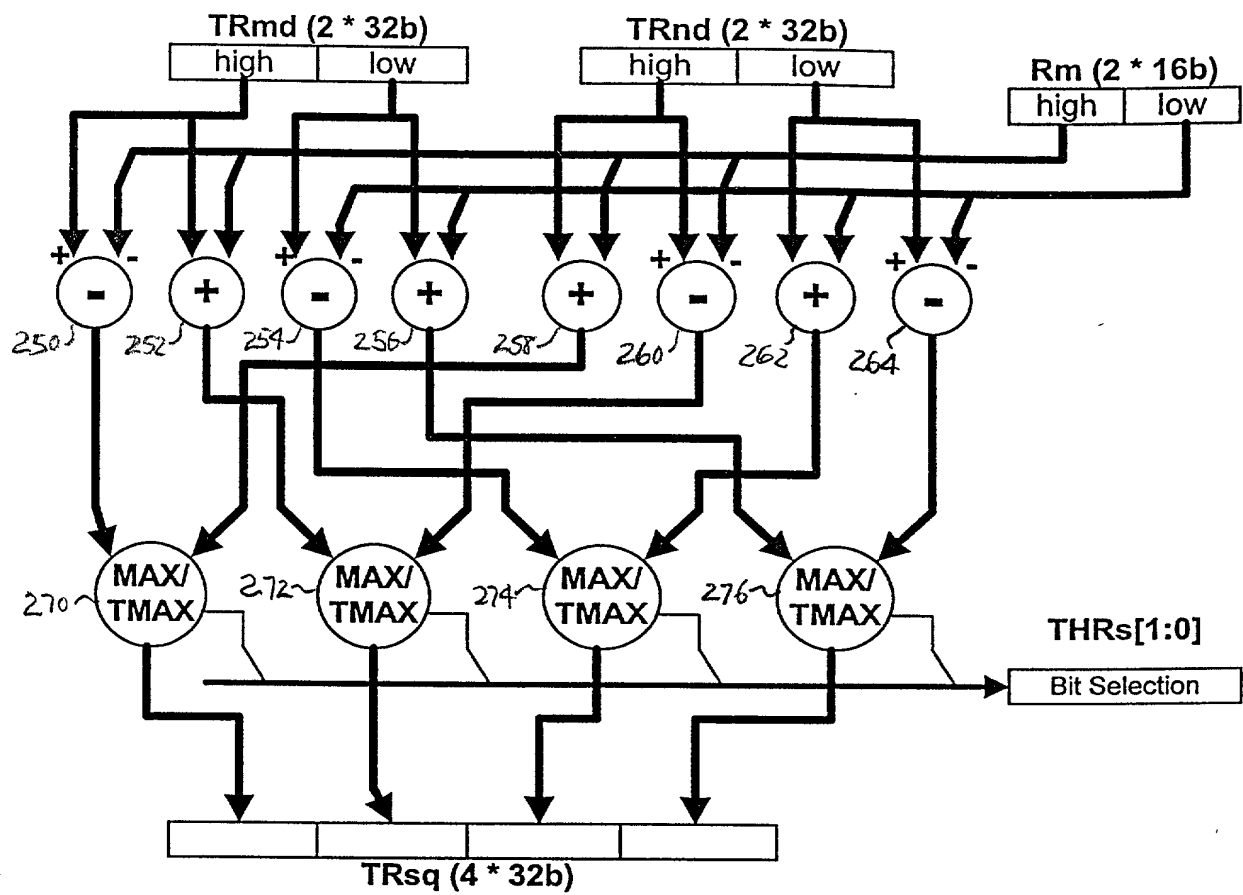


FIG. 9

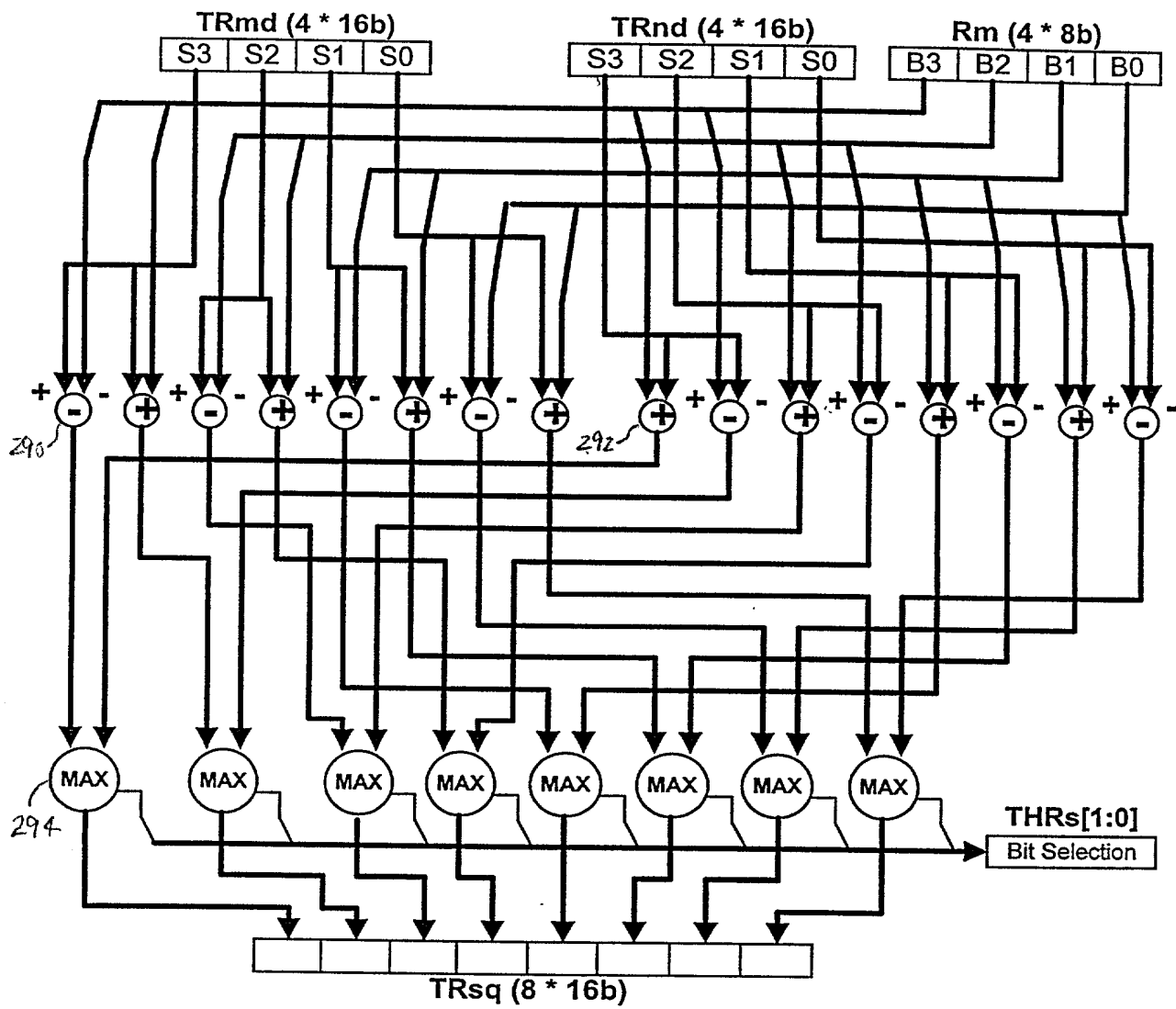


FIG. 10

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Loop:
R7:4 =TR7:4, TR11:8 = ACS(TR5:4, TR1:0, sR24); q[K22+=4]=xR3:0; q[J22-=4]=yR3:0;;
R11:8 =TR11:8, TR15:12 = ACS(TR7:6, TR3:2, sR25); q[K22+=4]=xR7:4; q[J22-=4]=yR7:4;;

R15:12 =TR15:12,TR3:0 = ACS(TR13:12,TR9:8, sR26); q[K22+=4]=xR11:8; q[J22-=4]=yR11:8;;
R3:0 =TR3:0, TR7:4 = ACS(TR15:14,TR11:10,sR27);q[K22+=4]=xR15:12;q[J22-=4]=yR15:12;;

R7:4 =TR7:4, TR11:8 = ACS(TR5:4, TR1:0, sR28); q[K22+=4]=xR3:0; q[J22-=4]=yR3:0;;
R11:8 =TR11:8, TR15:12 = ACS(TR7:6, TR3:2, sR29); q[K22+=4]=xR7:4; q[J22-=4]=yR7:4;;

R15:12 =TR15:12,TR3:0 = ACS(TR13:12,TR9:8, sR30); q[K22+=4]=xR11:8; q[J22-=4]=yR11:8;;
R3:0 =TR3:0, TR7:4 = ACS(TR15:14,TR11:10,sR31);q[K22+=4]=xR15:12;q[J22-=4]=yR15:12;;
If nLCoE jump loop;;

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FIG. 11

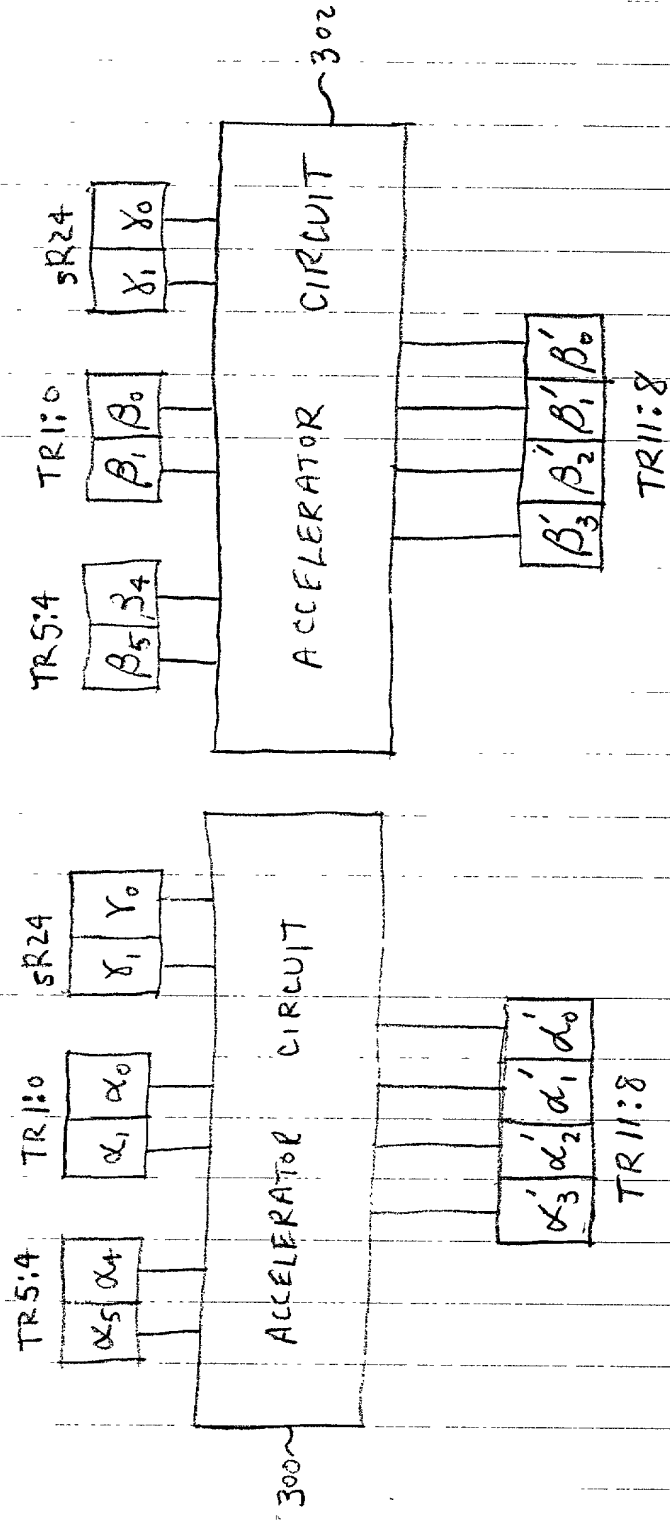


FIG. 12

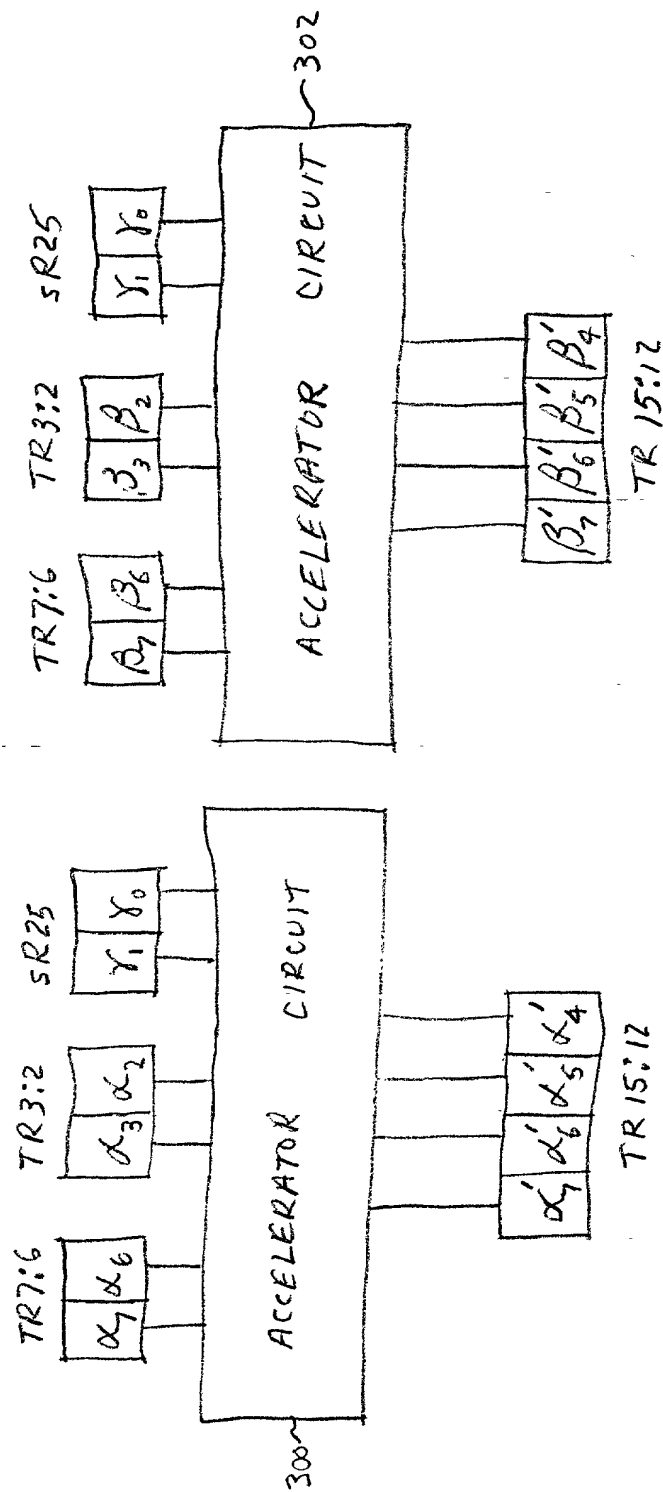


FIG. 13

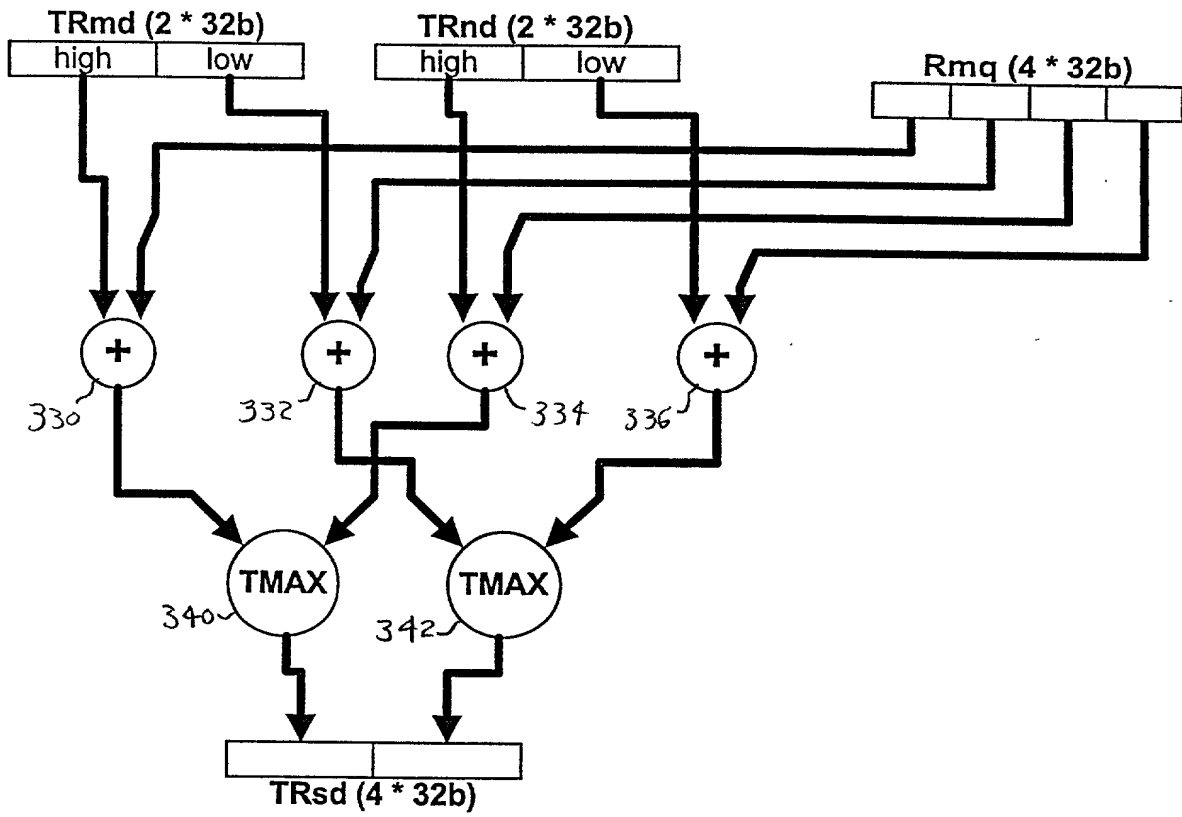


FIG. 14

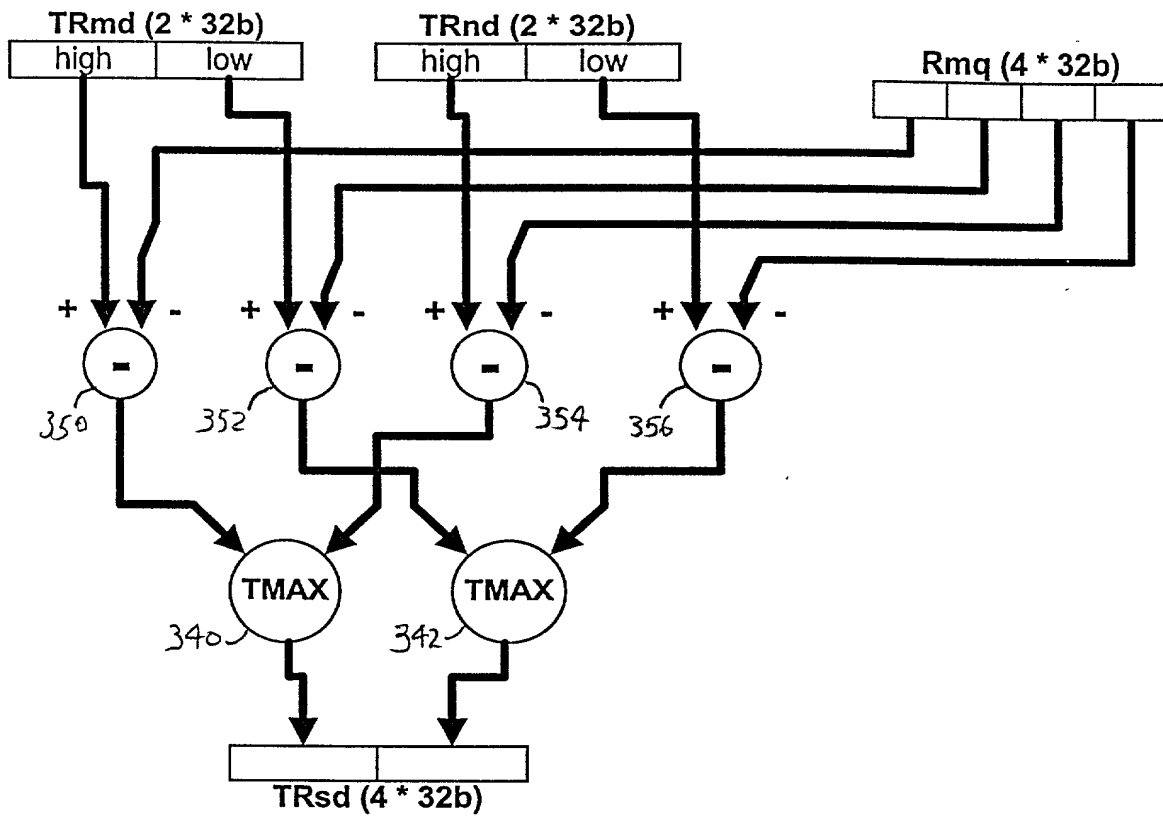


FIG. 15

[illegible]

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//ADD Alpha + Beta's for 0 and 1 state changes
TR9:8 = TMAX(TR1:0 + R9:8, TR3:2 + R11:10) ;;
TR11:6 = TMAX(TR1:0 + R13:12, TR3:2 + R15:14) ;;
TR13:12 = TMAX(TR5:4 + R13:12, TR7:6 + R15:14) ;;
TR15:14 = TMAX(TR5:4 + R9:8, TR7:6 + R11:10) ;;

//ADD Gamma for 0 and 1 state changes
TR5:4 = TMAX(TR9:8 + R0:0, TR13:12 + R1:1) ;;
TR12:11 = TMAX(TR11:10 - R0:0, TR15:14 - R1:1) ;;

R0 = TMAX(TR5, TR4) ;;
R1 = TMAX(TR12, TR11) ;;

R0 = R1 - R0 ;;

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FIG. 16

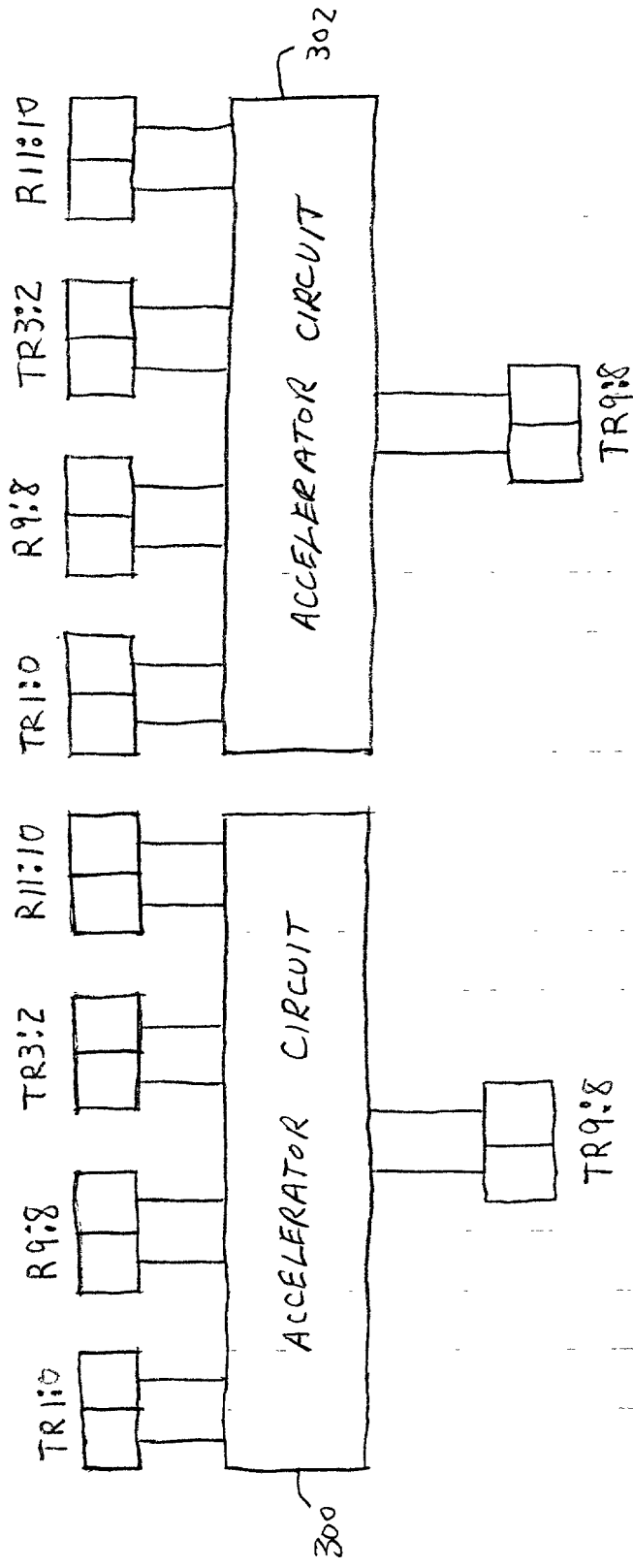


FIG. 17

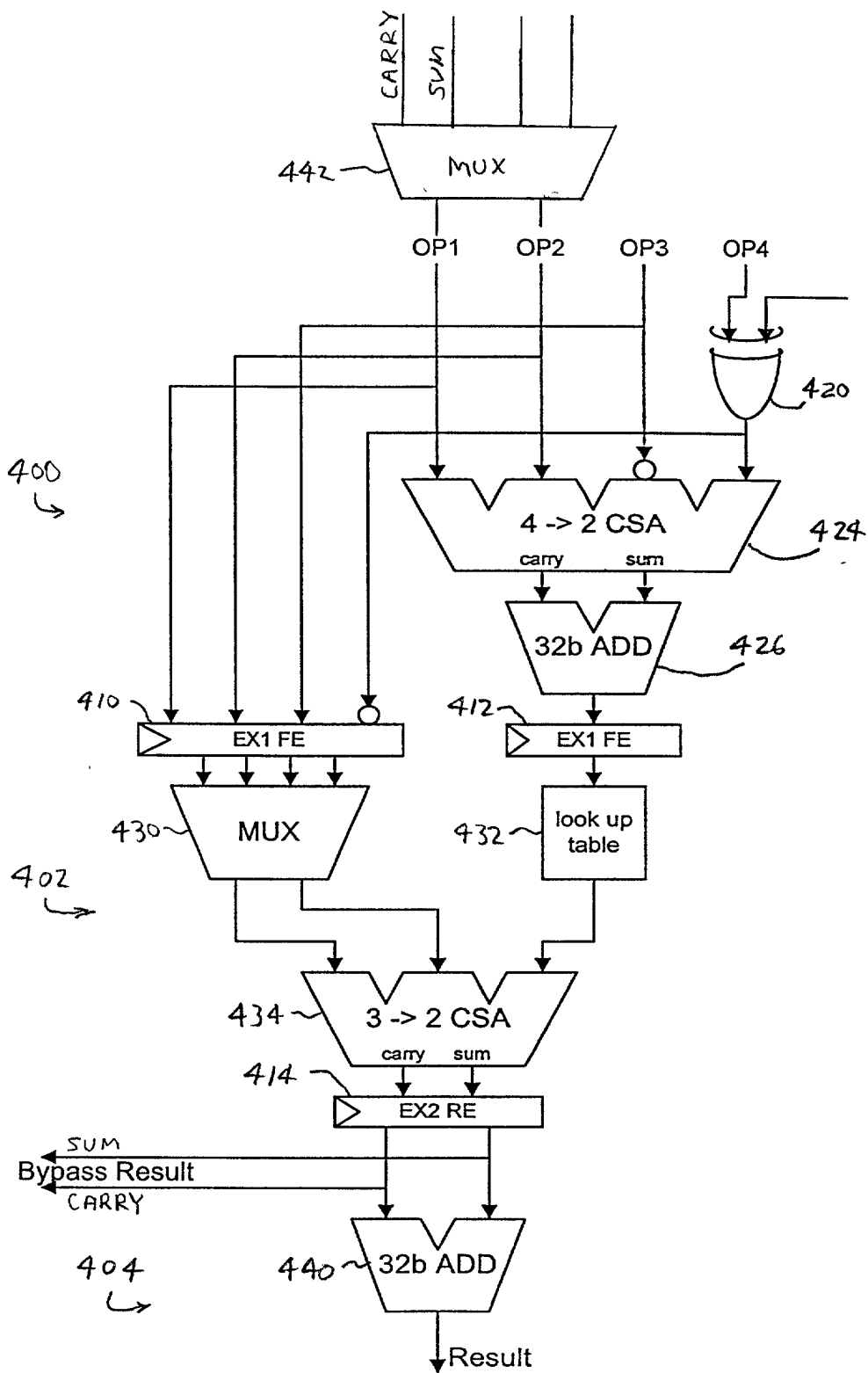


FIG. 18